REMARKS

Applicants appreciate the Examiner's thorough review of the present application, and respectfully request reconsideration in light of the preceding amendments and the following remarks.

Claims 1-4 and 6-24 are pending in the application. Claim 5 has been cancelled and replaced with new claim 24. Claims 1-4 and 6-10 have been amended solely to improve claim language. Claims 11-23 have been added to provide Applicants with the scope of protection to which they are believed entitled.

The specification and Abstract have been revised to be compliant with commonly accepted US patent practice.

No new matter has been introduced through the foregoing amendments.

The *35 U.S.C. 103(a)* rejections of claims 1-10 as being obvious over either *Weinstein* (U.S. Patent No. 4,928,883) or *Browning* (U.S. Patent No. 5,120,582) in view of *Dembovsky* (U.S. Patent No. 3,858,072) are noted. These rejections are traversed because the references singly or in combination fail to disclose, teach or suggest all limitations of the rejected claims.

The Examiner's attention is respectfully directed to *MPEP*, section 706.02(j) "Contents of a 35 U.S.C. 103 Rejection" which is reproduced in part below:

> 35 U.S.C. 103 authorizes a rejection where, to meet the claim, it is necessary to modify a single reference or to combine it with one or more other references. After indicating that the rejection is under 35 U.S.C. 103, the examiner should set forth in the Office action:
>
> (A) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate,
>
> (B) the difference or differences in the claim over the applied reference(s),
>
> (C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and
>
> (D) an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification. (emphasis added)

The Examiner's *35 U.S.C. 103(a)* rejections manifested in paragraphs 2 and 3 of the Office Action do not refer to the relevant teachings of the applied references by column or page number(s) and line number(s), which makes it very difficult to understand and properly respond to the rejections. It is respectfully requested that the Examiner clarify how each and every element of the rejected claims is disclosed/suggested, referring to the specific portions (by column/line numbers) of the references being relied upon. The Examiner's cooperation would be highly appreciated.

In the following sections, Applicants will respond to the Examiner's rejections as best understood.

The *35 U.S.C. 103(a)* rejection of claims 1-2 and 6-7 as being obvious over *Weinstein* in view of *Dembovsky* is traversed, because the Examiner's "suggestion or motivation" to combine the references is inadequate.

The Examiner states that *Dembovsky* teaches a spray system in which a spray nozzle is cooled in order to reduce the thickness of the adhering layer of **spray liquid** and also tends to state that it would have been obvious to combine the cooling system of *Dembovsky* with the spraying system of *Weinstein* because in the combined system, the coating liquid's adhesion, drying rate and layering onto a surface of the component would be reduced. Applicants cannot agree because *Dembovsky* does not teach such. If the Examiner insists otherwise, column and line numbers of *Dembovsky* where the above teaching allegedly found should be set forth. It should be noted that *Dembovsky* does not teach spray liquid. *Dembovsky* only teaches cooling liquids for the anode (inlet 7, outlet 8) and the cathode (inlet 4, outlet 20). The cooling liquids are confined within their respective internal channels and should not cause undesirable deposit on the spraying nozzle. *Dembovsky* therefore does not supply the suggestion or motivation the Examiner is relying upon.

The Examiner's statement that the device of *Weinstein* is fully capable of carrying out the method of claims 1-2 is not a valid argument in a *35 U.S.C. 103(a)* rejection. The arguable fact that

the prior art device is capable of practicing the claimed method does not necessarily mean that the prior art teaches or suggests the claimed invention. For example, a car is capable of floating for a short time. It does not mean that it was known in the art to cross the river on a floating car. The Examiner is requested to identify (referring to column and line numbers of the references) how each and every element of claims 1-2, as well as claims 6-7, can be found in or suggested by the applied references.

The *35 U.S.C. 103(a)* rejection of claims 1-2 and 6-7 as being obvious over *Browning* in view of *Dembovsky* is traversed, because the Examiner's "suggestion or motivation" to combine the references is inadequate. Note, the arguments advanced immediately above.

As to claims 2 and 7, Applicants respectfully submit that the applied references fail to disclose the claimed cooled surface which is in ambient air and **under the stream of the coating liquid**.

As to claims 3-4 and 8-9, Applicants respectfully submit that the applied references fail to disclose the claimed **compressed gas** being used as the coolant. The Examiner is relying on *Dembovsky* for the cooling system. The *Dembovsky* cooling system uses cooling liquid, not gas.

As to claims 4 and 9, Applicants respectfully submit that the applied references fail to disclose blowing the compressed gas onto a surface (22) of the component (4) to be cooled, where the coating liquid **does not stream over said surface**.

New independent claim 11 is patentable over the applied references because the references fail to disclose, teach or suggest, among other things, the steps of providing an atomizer having an **internal surface that defines an inner passage for the coating liquid** and an atomizing edge, atomizing and spraying the coating liquid from the atomizing edge onto the object, and cooling said atomizer during said atomizing and spraying step by **a cooling medium deposited on the external surface of said atomizer**. According to claim 11, the coating liquid and cooling medium are

presented on opposite sites of the atomizer. None of the applied references appear to teach or suggest this limitation.

Claims 12-18 depend from claim 11, and are considered patentable at least for the reason advanced with respect to claim 11. Claims 12-18 are also patentable on their own merits since these claims recite other features of the invention neither disclosed, taught nor suggested by the applied art.

As to claim 12, the applied references fail to disclose, teach or suggest the claimed **indirect cooling** in which the cooling medium is deposited in a remote region so as to cool the atomizing edge.

As to claim 13, the applied references fail to disclose, teach or suggest **depositing the cooling medium on the rear end** of said atomizer in a region rearwardly, longitudinally spaced from said atomizing edge.

As to claim 14, the applied references fail to disclose, teach or suggest depositing the cooling medium on the external surface of said atomizer **in a region that is not accessible to by the coating liquid** during said atomizing and spraying.

As to claim 16, the applied references fail to disclose, teach or suggest that the **cooling medium is deposited in a vicinity of a rear portion of said flared, front end of the bell-shaped atomizing element**.

As to claims 17-18, the applied references fail to disclose, teach or suggest that the cooling medium is a **compressed gas or air**.

New independent claim 19 is patentable over the applied references because the references fail to disclose, teach or suggest a spray system comprising a liquid atomizer having an atomizing

edge in the front end portion thereof, and a cooling unit having at least one cooling medium outlet pointing at the rear end portion of said atomizer.

Claims 20-23 depend from claim 19, and are considered patentable at least for the reason advanced with respect to claim 19. Claims 20-23 are also patentable on their own merits since these claims recite other features of the invention neither disclosed, taught nor suggested by the applied art.

As to claim 20, the applied references fail to disclose, teach or suggest that the cooling medium outlet of said cooling unit is rearwardly, longitudinally spaced from said vicinity of said atomizing edge; and the coolant line is located outside said inner passage.

As to claims 21-22, the applied references fail to disclose, teach or suggest that the cooling medium is a compressed gas or air.

As to claim 23, the applied references fail to disclose, teach or suggest that the cooling medium outlet includes at least one polygonal apertures or slit nozzles.

Each of the Examiner's rejections has been traversed. Accordingly, Applicants respectfully submit that all claims are now in condition for allowance. Early and favorable indication of allowance is courteously solicited.

The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of the present application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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